

Supplementary Table 1a: Comparison of responders and non-responders to the self-harm questionnaire at 16 years by key demographic variables (Comparison amongst those in the core ALSPAC sample, N=13,798)

Variable	Description	N	No data on self-harm with and without lifetime suicidal intent ^a	Data on self-harm with and without lifetime suicidal intent available	χ^2	P value
Child sex	Male	7,120	5,150 (57.2%)	1,970 (41.1%)	328.0	<0.001
	Female	6,678	3,849 (42.8%)	2,829 (58.9%)		
Parity	First born	5,716	3,433 (42.4%)	2,283 (48.8%)	86.9	<0.001
	Second born	4,468	2,833 (35.0%)	1,635 (35.0%)		
	Third born plus	2,581	1,825 (22.6%)	756 (16.2%)		
Home overcrowding	≤1 person/room	11,777	7,314 (91.2%)	4,463 (96.6%)	135.2	<0.001
	>1 person/room	868	710 (8.8%)	158 (3.4%)		
Maternal education	Degree	1,577	631 (8.3%)	946 (20.2%)	751.6	<0.001
	A level	2,761	1,455 (19.2%)	1,306 (28.0%)		
	O level	4,241	2,689 (35.4%)	1,552 (33.2%)		
	< O level	3,682	2,813 (37.1%)	869 (18.6%)		
Equivalentised household income	1 st quintile (highest)	1,994	862 (15.8%)	1,132 (25.9%)	335.1	<0.001
	2 nd quintile	1,962	952 (17.5%)	1,010 (23.1%)		
	3 rd quintile	1,952	1,087 (20.0%)	865 (19.8%)		
	4 th quintile	1,945	1,184 (21.7%)	761 (17.4%)		
	5 th quintile (lowest)	1,963	1,361 (25.0%)	602 (13.8%)		
Parental social class	Professional/managerial	6,256	3,353 (48.8%)	2,903 (64.8%)	281.9	<0.001
	other	5,097	3,521 (51.2%)	1,576 (35.2%)		
Child ethnicity	White	11,327	6,899 (94.2%)	4,428 (96.1%)	21.4	<0.001
	Non-white	600	422 (5.8%)	178 (3.9%)		

^a Includes those not sent the self-harm questionnaire, those who were sent but did not return the self-harm questionnaire, and those who returned the questionnaire but did not respond to the self-harm/suicidal intent items

Supplementary Table 1b: Comparison of responders and non-responders to the self-harm questionnaire at 16 years by key demographic variables (Comparison amongst those invited to participate in the age 16 year questionnaire, N=9,383)

Variable	Description	N	No data on self-harm with and without lifetime suicidal intent ^a	Data on self-harm with and without lifetime suicidal intent available	χ^2	P value
Child sex	Male	4,636	2,666 (58.2%)	1,970 (41.1%)	274.5	<0.001
	Female	4,747	1,918 (41.8%)	2,829 (58.9%)		
Parity	First born	4,064	1,781 (41.5%)	2,283 (48.8%)	69.0	<0.001
	Second born	3,203	1,568 (36.5%)	1,635 (35.0%)		
	Third born plus	1,703	947 (22.0%)	756 (16.2%)		
Home overcrowding	≤1 person/room	8,446	3,983 (93.1%)	4,463 (96.6%)	55.6	<0.001
	>1 person/room	453	295 (6.9%)	158 (3.4%)		
Maternal education	Degree	1,307	361 (8.6%)	946 (20.2%)	428.7	<0.001
	A level	2,208	902 (21.5%)	1,306 (28.0%)		
	O level	3,112	1,560 (37.1%)	1,552 (33.2%)		
	< O level	2,250	1,381 (32.8%)	869 (18.6%)		
Equivalised household income	1 st quintile	1,725	593 (16.6%)	1,132 (25.9%)	208.2	<0.001
	2 nd quintile	1,660	650 (18.2%)	1,010 (23.1%)		
	3 rd quintile	1,614	749 (21.0%)	865 (19.8%)		
	4 th quintile	1,521	760 (21.3%)	761 (17.4%)		
	5 th quintile	1,418	816 (22.9%)	602 (13.8%)		
Parental social class	Professional/managerial	4,878	1,975 (50.6%)	2,903 (64.8%)	172.8	<0.001
	other	3,503	1,927 (49.4%)	1,576 (35.2%)		
Child ethnicity	White	8,317	3,899 (94.8%)	4,428 (96.1%)	9.5	0.002
	Non-white	393	215 (5.2%)	178 (3.9%)		

^a Includes those who were sent but did not return the self-harm questionnaire, and those who returned the questionnaire but did not respond to the self-harm/suicidal intent items

Supplementary Table 2: Associations of self-harm with and without suicidal intent with mental health, substance use, educational, and occupational outcomes in early adulthood. Complete case analyses

Self harm and suicidal intent by outcomes	Adjusted for sex		Adjusted for sex and SEP		Adjusted for sex, SEP and depression symptoms ^a	
	OR [95% CI]	P value	OR [95% CI]	P value	OR [95% CI]	P value
Mental health outcomes and future self-harm						
CIS-R Depressive disorder (age 18)		<0.001		<0.001		<0.001
Non-suicidal self-harm versus no self-harm	2.60 [1.77 to 3.83]		2.64 [1.79 to 3.88]		2.35 [1.59 to 3.48]	
Suicidal self-harm versus no self-harm	4.97 [3.26 to 7.59]		4.83 [3.16 to 7.39]		3.92 [2.53 to 6.10]	
Suicidal self-harm versus non suicidal self-harm	1.91 [1.17 to 3.12]		1.83 [1.12 to 3.00]		1.67 [1.01 to 2.76]	
CIS-R Anxiety disorder (age 18)		<0.001		<0.001		<0.001
Non-suicidal self-harm versus no self-harm	2.84 [2.04 to 3.96]		2.87 [2.06 to 4.00]		2.57 [1.84 to 3.61]	
Suicidal self-harm versus no self-harm	5.59 [3.84 to 8.14]		5.57 [3.82 to 8.12]		4.63 [3.14 to 6.83]	
Suicidal self-harm versus non suicidal self-harm	1.97 [1.27 to 3.04]		1.94 [1.25 to 3.00]		1.80 [1.15 to 2.80]	
Self-harm in past year (age 21)		<0.001		<0.001		<0.001
Non-suicidal self-harm versus no self-harm	4.40 [2.96 to 6.54]		4.42 [2.97 to 6.58]		4.23 [2.83 to 6.32]	
Suicidal self-harm versus no self-harm	12.1 [7.89 to 18.6]		12.0 [7.77 to 18.4]		11.1 [7.13 to 17.2]	
Suicidal self-harm versus non suicidal self-harm	2.76 [1.72 to 4.41]		2.71 [1.69 to 4.34]		2.62 [1.63 to 4.22]	
Substance use outcomes						
Harmful alcohol use (age 18)		<0.001		0.001		0.008
Non-suicidal self-harm versus no self-harm	2.08 [1.21 to 3.57]		2.09 [1.21 to 3.59]		1.90 [1.10 to 3.30]	
Suicidal self-harm versus no self-harm	3.01 [1.63 to 5.55]		2.92 [1.57 to 5.40]		2.48 [1.31 to 4.68]	
Suicidal self-harm versus non suicidal self-harm	1.45 [0.70 to 2.97]		1.40 [0.68 to 2.88]		1.30 [0.63 to 2.70]	
Problem cannabis use (age 18)		<0.001		<0.001		<0.001
Non-suicidal self-harm versus no self-harm	4.21 [2.25 to 7.89]		4.34 [2.30 to 8.17]		4.11 [2.17 to 7.79]	

Suicidal self-harm versus no self-harm	12.8 [7.14 to 23.1]		13.1 [7.25 to 23.7]		12.0 [6.53 to 22.0]	
Suicidal self-harm versus non suicidal self-harm	3.05 [1.55 to 6.01]		3.02 [1.52 to 5.99]		2.91 [1.46 to 5.79]	
Smoking regularly (age 18)		<0.001		<0.001		<0.001
Non-suicidal self-harm versus no self-harm	3.26 [2.41 to 4.39]		3.27 [2.42 to 4.42]		3.22 [2.37 to 4.36]	
Suicidal self-harm versus no self-harm	4.71 [3.27 to 6.77]		4.65 [3.22 to 6.71]		4.52 [3.11 to 6.57]	
Suicidal self-harm versus non suicidal self-harm	1.45 [0.95 to 2.20]		1.42 [0.94 to 2.16]		1.41 [0.92 to 2.14]	
Illicit drug use (age 18)		<0.001		<0.001		<0.001
Non-suicidal self-harm versus no self-harm	3.32 [2.36 to 4.67]		3.31 [2.34 to 4.67]		3.12 [2.20 to 4.43]	
Suicidal self-harm versus no self-harm	4.23 [2.80 to 6.38]		4.64 [3.06 to 7.04]		4.22 [2.76 to 6.46]	
Suicidal self-harm versus non suicidal self-harm	1.28 [0.80 to 2.03]		1.40 [0.87 to 2.25]		1.35 [0.84 to 2.17]	
Educational and occupational outcomes						
Did not achieve five or more GCSEs or equivalent A*- C grades (age 15-16)		0.007		0.015		0.080
Non-suicidal self-harm versus no self-harm	0.70 [0.46 to 1.06]		0.73 [0.47 to 1.12]		0.97 [0.61 to 1.56]	
Suicidal self-harm versus no self-harm	1.72 [1.13 to 2.59]		1.68 [1.10 to 2.59]		1.78 [1.08 to 2.91]	
Suicidal self-harm versus non suicidal self-harm	2.45 [1.41 to 4.26]		2.32 [1.31 to 4.09]		1.82 [0.97 to 3.43]	
Did not achieve three or more A-level qualifications (age 19)		0.192		0.517		0.702
Non-suicidal self-harm versus no self-harm	0.98 [0.73 to 1.31]		0.98 [0.73 to 1.33]		1.09 [0.79 to 1.49]	
Suicidal self-harm versus no self-harm	1.45 [0.96 to 2.19]		1.28 [0.83 to 1.95]		1.18 [0.75 to 1.85]	
Suicidal self-harm versus non suicidal self-harm	1.49 [0.92 to 2.39]		1.30 [0.79 to 2.13]		1.09 [0.65 to 1.82]	
NEET (age 19)		0.368		0.370		0.352
Non-suicidal self-harm versus no self-harm	1.46 [0.80 to 2.67]		1.47 [0.80 to 2.68]		1.53 [0.83 to 2.81]	
Suicidal self-harm versus no self-harm	1.47 [0.65 to 3.30]		1.46 [0.65 to 3.29]		1.41 [0.62 to 3.22]	
Suicidal self-harm versus non suicidal self-harm	1.00 [0.39 to 2.56]		1.00 [0.39 to 2.55]		0.92 [0.36 to 2.38]	

CISR refers to the Clinical Interview Schedule Revised; SEP refers to socioeconomic position and includes maternal education and parental social class, assessed during pregnancy; NEET: Not in Education, Employment, or Training

Omnibus P-values test for a difference in odds across the three levels of the self-harm exposure

^a Education and occupational outcomes additionally adjusted for IQ at age 8 years

Of the 4,799 respondents with information on self-harm at age 16 years, the number of respondents with complete data on outcome and all included covariates was 2,554 for CISR-depressive disorder; 2,554 for CISR-anxiety disorder; 2,437 for past year self-harm at age 21 years; 2,476 for harmful alcohol use; 2,470 for problem cannabis use; 2,482 for regular smoking; 2,462 for illicit drug use; 2777 for not achieving five or more GCSEs or equivalent A-C; 1,743 for not achieving three or more A-Levels and 1,972 for NEET*

Supplementary Table 3: Associations of self-harm with and without suicidal intent with outcomes in early adulthood excluding those with evidence of pre-existing problems. Complete case analyses

Self harm and suicidal intent by outcomes	Adjusted for sex		Adjusted for sex and SEP		Adjusted for sex, SEP and depression symptoms ^a	
	OR [95% CI]	P value	OR [95% CI]	P value	OR [95% CI]	P value
Mental health outcomes and future self-harm						
CIS-R Depressive disorder (age 18)		0.002		0.002		0.004
Non-suicidal self-harm versus no self-harm	3.19 [1.72 to 5.92]		3.24 [1.74 to 6.03]		3.10 [1.66 to 5.80]	
Suicidal self-harm versus no self-harm	2.41 [0.71 to 8.15]		2.13 [0.62 to 7.29]		2.03 [0.59 to 7.01]	
Suicidal self-harm versus non suicidal self-harm	0.75 [0.21 to 2.76]		0.66 [0.18 to 2.44]		0.65 [0.18 to 2.44]	
CIS-R Anxiety disorder (age 18)		0.001		0.002		0.003
Non-suicidal self-harm versus no self-harm	2.49 [1.43 to 4.34]		2.46 [1.41 to 4.29]		2.35 [1.34 to 4.12]	
Suicidal self-harm versus no self-harm	3.35 [1.35 to 8.32]		3.18 [1.27 to 7.96]		3.06 [1.22 to 7.70]	
Suicidal self-harm versus non suicidal self-harm	1.35 [0.49 to 3.68]		1.29 [0.47 to 3.57]		1.30 [0.47 to 3.60]	
Self-harm in past year (age 21)		<0.001		<0.001		<0.001
Non-suicidal self-harm versus no self-harm	5.04 [2.83 to 8.98]		5.10 [2.86 to 9.11]		5.08 [2.84 to 9.08]	
Suicidal self-harm versus no self-harm	15.9 [7.41 to 33.9]		16.8 [7.71 to 36.4]		16.7 [7.65 to 36.3]	
Suicidal self-harm versus non suicidal self-harm	3.14 [1.37 to 7.22]		3.28 [1.40 to 7.68]		3.28 [1.40 to 7.67]	
Substance use outcomes						
Harmful alcohol use (age 18)		0.056		0.067		0.168
Non-suicidal self-harm versus no self-harm	2.58 [1.06 to 6.30]		2.62 [1.07 to 6.43]		2.24 [0.89 to 5.59]	
Suicidal self-harm versus no self-harm	2.85 [0.95 to 8.55]		2.60 [0.86 to 7.88]		2.16 [0.69 to 6.74]	
Suicidal self-harm versus non suicidal self-harm	1.10 [0.31 to 3.88]		0.99 [0.28 to 3.54]		0.96 [0.27 to 3.47]	
Problem cannabis use (age 18)		0.024		0.021		0.016
Non-suicidal self-harm versus no self-harm	2.94 [0.60 to 14.4]		2.92 [0.59 to 14.4]		3.22 [0.64 to 16.2]	
Suicidal self-harm versus no self-harm	8.63 [2.20 to 33.9]		9.36 [2.32 to 37.7]		10.7 [2.55 to 44.8]	

Suicidal self-harm versus non suicidal self-harm	2.94 [0.48 to 18.2]		3.21 [0.51 to 20.1]		3.31 [0.53 to 20.9]	
Smoking regularly (age 18)		<0.001		<0.001		<0.001
Non-suicidal self-harm versus no self-harm	4.34 [2.68 to 7.02]		4.39 [2.71 to 7.13]		4.47 [2.73 to 7.32]	
Suicidal self-harm versus no self-harm	2.86 [1.36 to 6.00]		2.80 [1.33 to 5.88]		2.87 [1.35 to 6.09]	
Suicidal self-harm versus non suicidal self-harm	0.66 [0.30 to 1.47]		0.64 [0.29 to 1.42]		0.64 [0.29 to 1.44]	
Illicit drug use (age 18)		0.003		0.002		0.007
Non-suicidal self-harm versus no self-harm	2.34 [1.32 to 4.13]		2.30 [1.29 to 4.08]		2.14 [1.20 to 3.83]	
Suicidal self-harm versus no self-harm	2.69 [1.28 to 5.65]		3.07 [1.45 to 6.50]		2.73 [1.27 to 5.87]	
Suicidal self-harm versus non suicidal self-harm	1.15 [0.49 to 2.69]		1.34 [0.56 to 3.17]		1.28 [0.54 to 3.04]	
Educational and occupational outcomes						
Did not achieve five or more GCSEs or equivalent A*- C grades (age 15-16)		<0.001		<0.001		<0.001
Non-suicidal self-harm versus no self-harm	1.47 [0.47 to 4.54]		1.61 [0.51 to 5.07]		1.69 [0.53 to 5.43]	
Suicidal self-harm versus no self-harm	7.33 [2.98 to 18.0]		9.55 [3.69 to 24.7]		12.0 [4.19 to 34.4]	
Suicidal self-harm versus non suicidal self-harm	4.98 [1.45 to 17.1]		5.93 [1.67 to 21.0]		7.09 [1.88 to 26.8]	
Did not achieve three or more A-level qualifications (age 19)		0.872		0.959		0.997
Non-suicidal self-harm versus no self-harm	0.91 [0.59 to 1.41]		0.96 [0.61 to 1.49]		0.98 [0.62 to 1.55]	
Suicidal self-harm versus no self-harm	1.10 [0.57 to 2.13]		1.07 [0.55 to 2.10]		1.01 [0.50 to 2.03]	
Suicidal self-harm versus non suicidal self-harm	1.20 [0.57 to 2.55]		1.12 [0.52 to 2.40]		1.03 [0.47 to 2.26]	
NEET (age 19)		0.012		0.018		0.016
Non-suicidal self-harm versus no self-harm	3.17 [1.38 to 7.30]		2.93 [1.26 to 6.82]		3.01 [1.29 to 7.04]	
Suicidal self-harm versus no self-harm	3.49 [1.12 to 10.9]		3.46 [1.10 to 10.9]		3.71 [1.15 to 12.0]	
Suicidal self-harm versus non suicidal self-harm	1.10 [0.32 to 3.84]		1.18 [0.33. 4.17]		1.23 [0.34 to 4.41]	

CISR refers to the Clinical Interview Schedule Revised; SEP refers to socioeconomic position and includes maternal education and parental social class, assessed during pregnancy; NEET: Not in Education, Employment, or Training

Omnibus P-values test for a difference in odds across the three levels of the self-harm exposure

^a Education and occupational outcomes additionally adjusted for IQ at age 8 years

The criteria for exclusion were specific to each outcome and utilized any available data collected during the period from 11 to 16 years. For mental health outcomes (depression, anxiety and future self-harm) participants were excluded if they had ever scored above a cut-off of 11 on the Short Mood and Feelings Questionnaire (assessed on four occasions at age 11 years, 13 years, 14 years and 16 years). For substance use outcomes, participants were excluded if they had ever used the respective substances to harmful/significant levels in the past, taking into consideration age-related differences in consumption. For educational and occupational outcomes (GCSEs, A-Levels, and NEET), participants were excluded if they had failed to achieve expected levels of performance in any of the three National Curriculum Assessments that are taken prior to GCSEs.

The proportion with evidence of previously existing problems was 27.0% for CISR-depressive disorder; 27.0% for CISR-anxiety disorder; 27.7% for past year self-harm at age 21 years; 12.5% for harmful alcohol use; 13.3% for problem cannabis use; 9.5% for regular smoking; 14.3% for illicit drug use; 39.1% for not achieving five or more GCSEs or equivalent A-C; 32.7% for not achieving three or more A-Levels and 34.5% for NEET*

The proportion of individuals with a history of self-harm by 16 years that were excluded ranged from 21.7% (for previous problem alcohol use; 22.3% of those with non suicidal self-harm and 20.4% of those with suicidal self-harm) to 57.2% (for history of probable depression; 50.2% of those with non suicidal self-harm and 73.0% of those with suicidal self-harm).

Supplementary Table 4: Associations of self-harm with and without suicidal intent with mental health, substance use, educational, and occupational outcomes in early adulthood. Maximum amount of data available

Self harm and suicidal intent by outcomes	OR [95% C^a]	P value
Mental health outcomes and future self-harm		
CIS-R Depressive disorder (age 18)		<0.001
Non-suicidal self-harm versus no self-harm	2.40 [1.69 to 3.43]	
Suicidal self-harm versus no self-harm	5.01 [3.40 to 7.36]	
Suicidal self-harm versus non suicidal self-harm	2.09 [1.33 to 3.28]	
CIS-R Anxiety disorder (age 18)		<0.001
Non-suicidal self-harm versus no self-harm	2.55 [1.87 to 3.47]	
Suicidal self-harm versus no self-harm	5.95 [4.22 to 8.37]	
Suicidal self-harm versus non suicidal self-harm	2.34 [1.57 to 3.49]	
Self-harm in past year (age 21)		<0.001
Non-suicidal self-harm versus no self-harm	5.42 [3.83 to 7.67]	
Suicidal self-harm versus no self-harm	14.5 [10.0 to 21.0]	
Suicidal self-harm versus non suicidal self-harm	2.67 [1.79 to 3.98]	
Substance use outcomes		
Harmful alcohol use (age 18)		<0.001
Non-suicidal self-harm versus no self-harm	2.40 [1.53 to 3.76]	
Suicidal self-harm versus no self-harm	3.03 [1.78 to 5.16]	
Suicidal self-harm versus non suicidal self-harm	1.26 [0.69 to 2.32]	
Problem cannabis use (age 18)		<0.001
Non-suicidal self-harm versus no self-harm	4.79 [2.76 to 8.30]	
Suicidal self-harm versus no self-harm	12.3 [7.15 to 21.0]	
Suicidal self-harm versus non suicidal self-harm	2.56 [1.40 to 4.68]	
Smoking regularly (age 18)		<0.001
Non-suicidal self-harm versus no self-harm	3.19 [2.42 to 4.20]	
Suicidal self-harm versus no self-harm	4.35 [3.11 to 6.08]	
Suicidal self-harm versus non suicidal self-harm	1.36 [0.93 to 2.00]	
Illicit drug use (age 18)		<0.001
Non-suicidal self-harm versus no self-harm	3.18 [2.33 to 4.36]	
Suicidal self-harm versus no self-harm	4.30 [2.96 to 6.24]	
Suicidal self-harm versus non suicidal self-harm	1.35 [0.88 to 2.06]	
Educational and occupational outcomes		
Did not achieve five or more GCSEs or equivalent A*-C grades (age 15-16)		<0.001
Non-suicidal self-harm versus no self-harm	0.79 [0.58 to 1.07]	
Suicidal self-harm versus no self-harm	2.35 [1.77 to 3.11]	

Suicidal self-harm versus non suicidal self-harm	2.97 [2.02 to 4.37]	
Did not achieve three or more A-level qualifications (age 19)		0.008
Non-suicidal self-harm versus no self-harm	0.87 [0.68 to 1.13]	
Suicidal self-harm versus no self-harm	1.62 [1.15 to 2.29]	
Suicidal self-harm versus non suicidal self-harm	1.86 [1.25 to 2.78]	
NEET (age 19)		0.044
Non-suicidal self-harm versus no self-harm	1.25 [0.75 to 2.08]	
Suicidal self-harm versus no self-harm	2.07 [1.20 to 3.56]	
Suicidal self-harm versus non suicidal self-harm	1.65 [0.84 to 3.27]	

CISR refers to the Clinical Interview Schedule Revised; NEET: Not in Education, Employment, or Training

^a Analyses adjusted for sex

Omnibus P-values test for a difference in odds across the three levels of the self-harm exposure

Of the 4,799 respondents with information on self-harm at age 16 years, the number with complete outcome data was 2,944 for CISR-depressive disorder; 2,944 for CISR-anxiety disorder; 3,069 for past year self-harm at age 21 years; 2,840 for harmful alcohol use; 2,833 for problem cannabis use; 2,850 for regular smoking; 2,822 for illicit drug use; 4,019 for not achieving five or more GCSEs or equivalent A-C; 2,346 for not achieving three or more A-Levels and 2,684 for NEET*